

APPENDIX 1

Listing of Permit/Approval Conditions Associated with the Enforceable Policies of the Virginia Coastal Resources Management Program for the King William Reservoir Project

1. Subaqueous Lands Management Enforceable Policy

The Marine Resources Commission approved a permit, VMRC #93-0902, with stipulations and conditions, in August 2004 for the referenced project. These conditions include:

Condition # 18 Screen Design

Permittee's raw water intake structure shall employ submerged cylindrical, wedgewire screens with one millimeter (1 mm) slot openings and a maximum through-slot velocity of 0.15 feet per second when all six Tee-screen assemblies are in service. To achieve the specified through-slot velocity, the diameter and length of these screens may exceed the dimensions shown in the application, but the screens and associated header and risers shall be installed within the footprint of the sheet pile-enclosed construction area shown in the application. The screens shall be installed as Tee assemblies, with two screens per Tee assembly. Prior to completing the final design of the water intake screen system, Permittee shall make a study of the River bed and tidal currents so that the screens are properly aligned to maximize sweeping velocities.

Permittee will furnish a copy of this study to the Commission for review and concurrence. The top of the screens shall be set a minimum of eight (8) feet below Mean Low Water (MLW). The bottom of the screens shall be at least five (5) feet above the river bottom, which shall be restored to preexisting contours and covered with riprap to minimize the potential for erosion around the base of riser pipes. The screen assemblies will be made of standard Type 316 stainless steel materials without any special coatings, chemical treatments or special alloys.

Condition # 19 Pumping Hiatus.

(a) Permittee shall not operate its raw water intake structure during a springtime pumping hiatus period. The beginning and end of this pumping hiatus shall be defined by Mattaponi River water temperature triggers to be determined as prescribed in this permit. The purpose of the pumping hiatus is to protect no less than 97 percent of the standing stocks of American shad eggs and yolk-sac larvae in 7 of 8 years of pre-operational data collection and study, and no less than 95 percent of the standing stocks of such eggs and yolk-sac larvae in the eighth year. Because the presence of eggs and yolk-sac larvae are presumably governed by river water temperatures, the pumping hiatus shall begin and end in any year when river water temperatures reach specified levels ("triggers"). These water temperature triggers shall be established by the Commission after Permittee completes an eight-year pre-operational monitoring program as prescribed herein, proposes certain temperature triggers, and shows, based on the data collected, that the proposed triggers will achieve the stated levels of protection.

(b) During any time between March 1 through July 31 that the hiatus is not in effect, Permittee shall keep all of its raw water intake screens in operation; provided, however, if one or more screens must be taken out of service, Permittee shall reduce pumping rates to ensure that intake slot velocities remain under the specified maximum intake rate of 0.15 feet per second.

(c) The pumping hiatus shall not apply during any water emergency declared by either the Governor or President.

Condition # 20 Pre-Operational Ichthyoplankton Monitoring Programs

Beginning in 2006, or in the first calendar year beginning after the date that the U. S. Army Corps of Engineers has issued the Section 404 permit for the King William Reservoir Project, whichever is later, and continuing for eight consecutive years thereafter, Permittee shall conduct annual spawning season ichthyoplankton monitoring programs in accordance with the KWR Pre-Operational Ichthyoplankton Survey and Entrainment Monitoring Programs (Appendix D to the King William Reservoir – Mattaponi River Fisheries Impact Assessment and Mitigation Report, King William Reservoir Fisheries Panel, April 1, 2004), and as further recommended by the Fisheries Panel in their report dated July 12, 2004. Permittee shall collect data on the presence of post-yolk sac larvae until river water temperatures reach 28 °C during the first two years of this monitoring program and, if required by the results thereof, during the remainder of this program.

Condition # 21 Intake Chemical Feed System.

(a) Permittee may install a chemical feed system that can apply chemicals within the intake pipe on the river side of raw water pump discharge check valves for the purpose of controlling bio-fouling mollusks, such as the zebra mussel, within the intake structure.

(b) If bio-fouling mollusks or other aquatic species should become present in the Mattaponi River at a later date, Permittee shall submit an Operational Plan detailing the proposed chemicals or other measures to be utilized to protect its intake structures from such species. This Operational Plan shall be accompanied by a technical assessment of the potential impact on river habitat and fisheries resources resulting from activation of the proposed measures. The Permittee shall not activate or utilize the chemical feed system until the Commission has granted its express approval to do so.

Condition # 22 Reports to Commission on Pre-Operational Monitoring

No later than September 30 of each year, Permittee shall compile and file a report with the Commission on its pre-operational monitoring efforts during that year. Each such report shall contain: (i) the data collected during that year's spawning season and (ii) a summary of all data collected in the pre-operation a monitoring program in prior years. At the end of the eighth year the Permittee shall provide an analysis of all such data with recommendations of proposed Mattaponi River water temperature triggers to be used to signal the commencement and end of the springtime pumping hiatus.

Condition # 23 Setting Hiatus Triggers

(a) Permittee shall file its final report with the Commission by September 30 of the eighth year of its preoperational monitoring program. The final report shall include proposed temperature trigger values that, based on the data collected, meet the 97% and 95% protection levels specified in the City's application documents. The proposed temperature triggers shall cover a minimum range of 12 °C, even if results from the preoperational monitoring program suggest that a smaller temperature range would achieve the protection objectives. If it approves the report and proposed trigger values, the Commission shall amend this permit to include such trigger values. If the Commission finds that the proposed trigger values do not meet the specified protection levels, or if the Commission finds substantial flaws in Permittee's analysis of the data, Permittee shall be required to revise and resubmit its report with modified trigger values.

(b) Permittee shall not operate its raw water intake during the period from March 1 through July 31 in any year unless permitted to do so by the Commission in accordance with the approved temperature triggers. Otherwise, Permittee may operate its water supply intake during the period from March 1 through July 31 only if a declaration of water supply emergency has been made by the Governor or President.

Condition # 24 Post-Operational Monitoring (for Water Supply Emergency Years)

(a) Permittee may operate the raw water intake during any water supply emergency declared by the Governor or President. The intake screen design is intended to provide a high level of protection from entrainment to any relatively immotile organisms that might be present within the intake's area of influence when water withdrawals are being made. To determine the actual level of protection afforded in such circumstances, Permittee shall, during the first year in which any such withdrawals are being made, conduct entrainment monitoring as prescribed in Appendix D to the King William Reservoir – Mattaponi River Fisheries Impact Assessment and Mitigation Report, King William Reservoir Fisheries Panel, April 1, 2004, and report its findings to the Commission by the following September 30.

(b) Permittee shall report entrainment monitoring results for American shad, hickory shad, gizzard shad, alewife, blueback herring, striped bass, white perch, yellow perch, longnose gar, Atlantic sturgeon, and common carp.

Condition # 25 Commission Authority to Reopen the Permit

Permittee agrees that after proper notice and opportunity for a hearing, the Commission's permit may be reopened by the Commission to modify one or more of its conditions if the circumstances on which the permit was granted materially and substantially change, if the Virginia Water Protection permit has been modified, or if studies conducted by the Commission or the permittee show some material, substantial and adverse change in the condition of the Mattaponi fisheries or the Commission's jurisdictional habitat has occurred as a result of the permittee's operations.

Condition # 27 In-River Construction Protection

(a) Permittee agrees to conduct no in-stream work or dredging associated with construction of the intake between February 15 and June 30. Clamshell or backhoe excavator equipment will be used for dredging within a sheet pile enclosure, to minimize the area of disturbance on the bottom and the movement of turbid water. Barges will be loaded with dredge spoil within an area enclosed by a temporary turbidity curtain. The permittee will specify in its construction documents for the intake, use of the Craney Island Dredged Material Management Area or Re-handling Basin, for disposal of excavated river bottom sediments. If this location is not available to the permittee for this project, an upland disposal site with existing transfer facilities will be identified and specified for use. Any alternate disposal site shall not require additional disturbance of State-owned bottoms or result in impacts to tidal or non-tidal wetlands. The total volume of material to be dredged shall not exceed 2,500 cubic yards. The sheet pile enclosure shall be removed after construction of the intake is complete.

(b) Permittee agrees to use microtunneling technology to install intake pipelines.

(c) Permittee agrees to use only granular and stone materials for backfill of the intake pipes and associated concrete embedment. Dredge spoils will not be reused in any way at the site.

(d) Permittee agrees that during construction, an unobstructed 100 foot wide corridor with depths of at least 10 feet at mean low water shall be maintained between the work area and the north shore, so movement of recreational and commercial boating traffic will not be impeded.

Condition # 28 Shad Hatchery Mitigation

The permittee shall provide approximately 1 million larval American shad in each year following commencement of intake operations to help replenish American shad fish stocks in the Mattaponi River. Annual releases will be at a time and location to be identified by the permittee in consultation with Virginia Department of Game and Inland Fisheries (DGIF) and VIMS and as approved by the Commissioner.

Larvae provided by this condition will be hatched, raised and released by a mitigation hatchery program through VMRC or DGIF, a private hatchery, or hatchery operated by the permittee.

Condition #29 Fish Passageway Mitigation

Prior to commencement of operation of the water supply intake the permittee shall:

(a) Cooperate with the DGIF to plan and restore anadromous fish passage to at least one currently blocked tributary in the York River Basin. The permittee will pay up to \$450,000 toward restoring fish passage at one or more of the following three dam sites: South Anna River (Ashland Mill Dam), Herring Creek and Gravatt's Mill pond.

(b) Provide \$250,000 to implement fish passage improvements at roadway culvert blockages within the York River Basin in support of the Chesapeake 2000 Bay Program Agreement signed by the Governor of Virginia and the 1999 National Fish Passage Program administered by the U.S. Fish and Wildlife Service (USFWS). Locations of culverts to be improved shall be selected by the DGIF in cooperation with the USFWS and the Department of Transportation.

(c) The restoration programs required in 29(a) above are also set forth as conditions in the Virginia Water Protection Permit issued by the Virginia State Water Control Board. The requirements of these two permits are not cumulative; Permittee shall only be required to perform these programs once.

2. Wetlands Management Enforceable Policy

The outstanding plans required by provisions of VWP Permit 93-0902M include:

1. Drought water conservation plan for DEQ approval that describes what measures shall be taken to notify the general public when there is a need for voluntary water conservation measures, and what measures shall be taken, what type of water uses are prohibited during mandatory water conservation phases and by what means the mandatory water use restrictions shall be enforced.
2. Final wetland mitigation plan for the required mitigation to DEQ for review and approval prior to any construction that would result in the destruction of existing wetlands and prior to wetland mitigation site construction. This review includes public notice of the final plan, a public hearing, and consideration of public comments by Newport News, all in addition to DEQ review. This plan must be approved by the Director of DEQ.

The plan shall identify the boundaries of the properties where wetlands are to be restored, created, enhanced or preserved. The plan shall establish success criteria by which the successful creation or restoration of wetlands shall be evaluated. The success criteria shall establish specific targets with regard to plant coverage, types of plants, density and survival of planned woody species. The plan shall include a monitoring program by which the successful creation and restoration of wetlands can be evaluated. The plan shall include contingency provisions by which deficiencies in the creation and restoration of wetlands can be corrected.

Not sooner than twenty four months, nor later than eighteen months before the date of permit expiration the permittee shall submit a reissuance progress report which delineates the restored and created wetlands and compares the actual mitigation sites with their targeted design in terms of area and quality. If the restored and created wetlands are not meeting established goals in terms of areal coverage, quality and type of wetland, the reissuance progress report shall identify what remedial actions shall be taken to meet those preestablished goals or what actions shall be taken to develop new mitigation sites.

3. A detailed eco-monitoring plan that includes provisions to identify the spawning and nursery grounds of the Mattaponi River used by anadromous fish. The eco-monitoring plan shall include provisions to monitor the vegetative composition and distribution of flora of the tidal wetlands of the Mattaponi River. The eco-monitoring plan shall be designed with the intention of monitoring any salinity induced changes to the composition and distribution of the flora in the tidal wetland communities and any salinity induced changes to the location of spawning and nursery grounds used by anadromous fish. The eco-monitoring plan shall include provisions for monitoring the condition and viability of the Sensitive Joint Vetch colony at White Oak Landing on the south shore of the Mattaponi River.

- 4 A salinity monitoring plan for the Mattaponi River. Prior to the development of the salinity monitoring plan the permittee shall perform multidimensional hydrodynamic salinity modeling to analyze short term and vertical variations in salinity in the Mattaponi River with the permitted intake in operation. The results of the multidimensional hydrodynamic salinity modeling shall be used to develop proposed salinity sampling stations and frequencies for sampling for the salinity monitoring plan. The plan shall specify the monitoring stations and frequencies of sampling of the Mattaponi River. The salinity monitoring plan shall propose a schedule for periodic updates of water withdrawal data to be used to run the model and periodic calibration and verification of model results.